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An
Inaugural Essay
On
Iodine;

By Samuel J. Hobson,
of Philadª,

Submitted to the Trustees and Medical Professors of the University of Pennsylvania,

Philadª Febᵧ, 1829.

(No 55, S. 5th St. bt. Chestnut & Walnut.)

Introduction.

In surveying the vast and almost boundless field of medical topics, that presents to the student an endless variety of subjects for an inaugural theme, he is often desultory, and long in determining upon one to which he shall devote his attention. In vain may he aspire to originality, and generally he is obliged to pursue a path previously trodden, and enter into regions already explored. But, yet there are some who falsely aim at it; and after soaring in the lofty regions of fanciful speculation and indefinite hypothesis, come forth, and vindicate some vague, unmeaning, and puerile theory, that would vanish "like the baseless fabric of a vision," before the touchstone of practical observation and confirmed experience. Occasionally, however, there are a few, who, from a laudable spirit of inquiry and research, do, by successful experiment, determine some unsettled

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points, or discover some new facts.

We have selected Iodine out of the immense catalogue of the materia medica, for the subject of our inaugural dissertation; and it shall be our endeavour to collect the valuable facts (in relation to this article,) which are scattered over an extensive space, and thus to concentrate within the limits of an essay the results of an extended experience with it in the hands of others.

The department of medicine to which the subject of this essay belongs, is one of the highest importance; without its aid, the other collateral branches were almost useless. Of what benefit were the compass to the mariner without the rudder, or sails without the wind? So by analogy in medicine. Anatomy and physiology might pour forth their luminous rays, and make known to us the organ affected, or the function that is deranged, and symptomatology confirm

our diagnosis; but, of what avail were it to know all this, without being able to call to our aid some of those powerful therapeutic instruments which enable us to subdue disease.

The materia medica has lately been enriched by many valuable accessions, made by her Sister science chemistry; and among them, Iodine is perhaps one of the most important.

For the sake of perspicuity we shall divide our essay into three separate heads or sections.

The first will comprise its History: including, the method of obtaining it, its physical and chemical properties and combinations, and its nature.

The second, that of its Action upon the Animal Economy: including, the symptoms it induces, the lesions of texture or its pathological effects, and the treatment for a poisonous dose.

The third, that of its Therapeutic Application: including, its medicinal virtues or effects, its pharmaceutical preparations, the diseases to which it is applicable, and its modus operandi.

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Section 1st

History

Iodine, we are informed, was discovered by M. Courtois, a chemist of Paris, in the year 1812. The metallic vessels that he used for procuring soda from kelp were corroded during the process, and in searching for the cause of it, he made this valuable discovery.

Specimens of the new substance were presented to M. Clement and Desormes, who, were the first to investigate it, and to make known its nature to the world, which they did by announcing it through the medium of a memoir, read at a meeting of the French Institute in 1813. Its chemical habitudes have since been ably, and throughly investigated, by Sir H. Davy,* Gay Lussac†, Vauquelin,† Colin,† Gaultier de Claubry,† and M. Pellitier.‡

Method of Obtaining It. Iodine may be pro=
=cured from various bodies or substances, and by many

*Phil. Trans. 1814. †Ann. de Chim. ‡Bulletin. de Pharmacie.

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different processes: its sources are abundant: Nature has been prodigal: she has scattered it through all her kingdoms, and, with the torch of chemistry, man has explored them all, and found it to exist in each.

We are informed by Majendie,* that M. Balard, of Montpelier, in modifying the use of starch as a re-agent for Iodine, has ascertained the existence of this body in various marine moluscæ, bare and shelled; such as, the doris, the venus, the oyster, &c.; and, also, in several polypi. Professor Hare speaks of it as having been discovered in marine worms.† Dr. Webster, also, says, that it has been detected in various marine animals.‡ May it not exist, more or less, in all animals inhabiting salt-water?

The above facts are we think sufficient to allow us with certainty to conclude, that Iodine exists in, and is a constituent of, animal matter.

*Vid. Majendie's Formulary Edit. 2d p. 85.
†Hare's Minutes Art. Iodine. ‡Webster's Manual of Chemistry p. 101.

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We shall next examine it as a vegetable constituent. And here we shall find its most prolific source. It is from this kingdom that we almost exclusively obtain it. It was here from its redundancy that it proved mischievous, and forced us to its discovery. Iodine exists in all the species of the genus fucus, of the order algæ aquaticæ of Linnæus.

Dr. Fyfe proved it by ocular demonstration to exist in the following fuci:— Fucus Cartilagineus,— Membranaceus,— Filamentosus,— Rubens,— Nodosus,— Serratus, Siliquosus,— Palmatus,— Filum,— Digitatus,— Saccharinus,— Ulva Umbilicalis,— Pavonia,— Linza, and Sponge. Upon adding sulphuric acid to a concentrated hot infusion of any of them, the vapour of Iodine was exhaled.*

M. Balard, the author before alluded to, informs us that he detected it, (by the same means as he did in animals,) in the gorgonia, the Zostera marina, and other marine vegetables. Mr. Strauß†, of

*Edin. Phil. Journal. Vol. I. †Amer. Med. Rec. Vol. IV.

Hofwyl, has discovered Iodine in turf. He was led to suppose it contained it, from the peculiar odour he perceived in the neighbourhood where it was burnt, and subsequent experiment decidedly confirmed his conjecture; for, by acting upon two pounds of turf, satisfactory evidence of the existence of Iodine was obtained. This substance, (turf,) certainly contains a great deal of vegetable matter in combination with earthy particles; as the sedge, or a species of grass grows thickly on it, and radicates deeply and abundantly through its substance. The same gentleman found it, also, in the cinders of the fucus helmintocorton or corsican moss, in small quantities. He, as well as Dr. Fyfe, discovered it in sponge. From the preceding facts and observations, we are justly entitled to conclude, that Iodine is contained in, and may be procured from, all marine plants or vegetables.* We shall next occupy a short

*Some of the substances that we have mentioned as vegetable, and others as animal, I am aware are not thought by all

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time in examining its mineral habitation: and here we shall find but a scanty portion of it.

M. Vauquelin, in the year 1825, found Iodine in combination with silver, in a fragment of the ore of that metal. Iodine has, also, been detected in mineral springs. We are informed by Majendie* that M. Laur Angelini, of Voghera, proved with starch the presence of Iodine in the salt-waters of Voghera; and, that the same chemist, also, detected it, in the waters of Salles in Voguerais.

We learn from the same source, that M. Balard discovered it by a modification of starch, in the mother waters of the salt-pits supplied by the Mediterranean. The mineral waters of Echaillon

to be entirely so; but as partaking of both, and rank them with that class of beings denominated Zoophites. This is a point upon which the most learned on the subject have ever differed. While some maintain them to be wholly animal, or vegetable, others consider them as both united in one. Be it as it may, however, it does not in the least invalidate the soundness of our corollaries.

*Formulary Art. Iodine.

in Savoy, are known to contain marine salt, and to possess considerable anti-goitrous powers; yet they do not give any trace of Iodine.

Professor Cantu, of Turin, has discovered Iodine, in the form of hydriodate, in all sulphurous springs; at least in all those that were examined by him, and he says they were no inconsiderable number. For this, and several interesting conclusions which he draws, See. Amer. Med. Recor. Vol. VIII.

Thus we see that Nature has not so bountifully supplied the mineral kingdom with Iodine, as she has the others; yet Vauquelin's discovery incontestably proves, that it is, also, a true mineral concomitant. We shall now hasten to close this paragraph, by stating, in a few general terms, the usual, and most easy method of obtaining it.

First we are directed to lixiviate kelp: then evaporate the lixivium till a pellicle forms, and set it aside to crystallize. Evaporate the mother

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liquor to dryness, or to a state of high concentration. Pour upon it half its weight of sulphuric acid. Apply a gentle heat, and fumes of a violet colour will arise and condense on the sides of the re=ceiver, in the form of dark crystals having a me=tallic lustre; which are to be washed out with a little water and quickly dried upon paper:- these crystals are Iodine.

Now, in order to understand the rationale; it is necess=ary to know that Iodine exists in the solution of kelp combined with hydrogen and potash, i.e., in the state of hydriodate of potash. In pouring sul=phuric acid upon it, the acid unites with the base of the hydriodate, and, also, a portion of its oxygen with the hydrogen of the hydriodic acid; forming sulphate of potash and water, while the Iodine is liberated and escapes in the manner before described. + What becomes of the Sulphur

Physical and Chemical Properties, and Combinations. "Iodine is of a black grey colour, resembling plumbago, and crystallized either in micaceous plates, or broad and brilliant rhomboidal plates, or long octohedrons. Its fracture is lamellated and greasy. It is very friable, and may be reduced to impalpable powder. It destroys vegetable colours, and stains the skin of a deep orange — not very permanent. Specific gravity 4.948. Not a conductor of electricity. Melts at 225° Fahrenheit, and boils between 335 and 355°. Its taste is acrid, hot and durable, and it acts as a poison."*

According to my own experiments, iodine evaporates slowly at the ordinary atmospheric heats, and those of Dr. Ure confirm mine. Nevertheless, some Chemists assert that it is permanent at the usual temperature; they, however, cannot have tried the experiment. Iodine is rapidly volatilized under the

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common pressure of the atmosphere at the temperature of 350° and gives off copious violet coloured fumes. It is from this circumstance that it receives its name from the greek word ἰωδης — violaceus or violet-like.

Iodine is sparingly soluble in water, that fluid not dissolving more than $\frac{1}{7000}$ its weight. Alcohol takes it up much more freely.

Iodine possesses properties which render it very analogous to oxygen and chlorine. With them it forms compounds resulting in acid products. With oxygen, it forms iodic acid: with chlorine, chloriodic acid: with hydrogen, hydriodic acid.

Iodic acid is a white, semi-transparent, sour and inodorous body, very soluble in water.

Chloriodic acid exists in the form of orange-yellow crystals, volatile, deliquescent, and very soluble.

Hydriodic acid is a gaseous acid. Has a very sour taste, and smells like muriatic acid. It is colour-

=less, and is rapidly absorbed by water forming liquid hydriodic acid. Now all these acids possess properties common to all other acids. With salifiable bases they form their respective salts; constituting iodates, chloriodates, and hydriodates.
Iodine, also, unites with the metals by the aid of heat, forming <u>iodides</u>; and with simple inflammable bodies, forming <u>iodurets</u>. With ammonia it forms a detonating compound.*
As regards the chemical re-agents for iodine, little need be said. <u>Starch</u> appears to be the best test of it. They are of course reciprocal re-agents. A very minute portion of iodine gives to a solution of starch a <u>dark</u> <u>blue</u> colour.
<u>M. Lampadeus</u> recommends the sulphuret of carbon as a test for iodine. He asserts, that "a thousandth part of iodine gives to that fluid a fine amethystine tint." (See, Journal of Science and the Arts. Vol. VI.)

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Before ending this section we shall say a few words respecting the

Nature of Iodine. We have before said, that iodine bears a close analogy to oxygen and chlorine. Let us now see in what respects it resembles them. 1st It is a simple, elementary, undecompounded body. 2d It is electro-negative. 3d It is a supporter of combustion. 4th It destroys vegetable colours. In a word, it possesses nearly all the chemical habitudes of oxygen and chlorine.

There is still one question that I have never seen proposed; i.e. does iodine itself, belong to the animal, the vegetable, or the mineral kingdom? My answer to this query is, that it belongs to the latter; in other words, it is a true mineral. It is of too little importance to occupy time in giving our reasons for so thinking.

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to give the minute details of the above mentioned acids and other compounds of iodine, without enlarging this essay far beyond its proper limits. I therefore refer those for information

Section 2.d

Action of Iodine upon the Animal Economy

It is a well-founded maxim in physic, that "all poisons are medicines, and all medicines poisons." Indeed so true does this hold, that all medicines which possess the most baneful properties, are generally our most potent and valuable remedies. It is the quantity only that constitutes the difference; and when through mistake or otherwise a large quantity is taken, they produce the most disastrous and often fatal effects. It will be our duty here to notice, the consequences of an over-dose of Iodine.

We are informed by Orfila, the prototype of toxicologists, that he administered it to dogs in doses of one up to nearly three drachms, and the only prominent symptoms induced, were vomiting, hiccup, dejected appearance, and in one or two

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as to their various modes of preparation, and other particulars, to the numerous works on chemistry; and shall occupy their room with matter of more practical import.

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instances, plaintive cries. They generally died in the space of four or five days, without suffering either convulsions, or paralysis.
The pathological results evinced upon dissection, were phlogosis, ulceration, and softening of the mucous coat of the stomach; together with thickening and effusions of coagulable lymph about the pylorus.*

Wishing to see its effects upon the human system, this indefatigable experimenter tried it upon his own person. He commenced by taking two grains of it fasting; and a very disagreeable taste, with slight nausea, were the only sensations he felt. The next morning he took four grains; and it directly produced a sense of constriction and heat in the throat, which lasted a quater of an hour, and in a little while vomited some yellow, liquid matter, which contained iodine, and only felt slightly

*There is a case mentioned in the London Medical Repository, V. XVI. p. 450; where a patient who had been taking the iodine for goître, died; "and on opening the body, the stomach was found quite corroded."

oppressed the rest of the day. On the following morning he took six grains fasting; which immediately caused heat and constriction of the throat, nausea, eructations, salivation, and epigastralgia; at the end of ten minutes, copious bilious vomitings and slight gripes came on, which lasted an hour, but yielded to two emollient clysters. The pulse which before the experiment was at 60, rose to 125. Respiration was but little interrupted. The free use of mucilaginous drinks, together with emollient enemata, soon arrested all these symptoms.

Orfila, from the preceding data, draws the following conclusions:

1st That iodine when introduced into the stomach in small quantities, acts as a slight stimulant, and produces vomiting. 2dly That in the dose of a drachm, it constantly kills in four or five days the dogs who have the œsophagus tied, by slowly producing ulceration of the stomach. 3dly That in the dose

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of two or three drachms when the œsophagus is not tied, it acts in the same manner upon animals who do not vomit for several hours.* 4.thly That it rarely occasions death when it has been taken in the dose of one or two drachms, and the animals shortly after throw it up by repeated vomiting. 5.thly That it appears to act in the same manner upon Man, as upon dogs. 6.thly That it ought to be ranked amongst the corrosive poisons.†

Majendie as well as Orfila, gave it to dogs, but does not mention in what quantities. The only consequence was vomiting. He also informs us, that he introduced the tincture of iodine into the veins of dogs; but without any apparent effect. ‡

Treatment for a Poisonous Dose. As there is no specific antidote for iodine, at least none to my knowledge, it is evident that all we can do, is to obey that great

*I should have mentioned in the text, that the operator passed a ligature around the œsophagus of some of the dogs, after introducing the iodine, in order to prevent it from being ejected.

† Orfila's Toxicology, Vol. 1. Art. Iodine. ‡ Majendie's Formulary. ed. 2.d

fundamental indication, commanded by all poisons:- namely, the immediate removal of it from the system. After which, we must be guided by general principles.

We have before seen, that the only remedies em=ployed by Orfila on his own person, were diluent drinks and emollient enemata.

We shall now cite a few cases where over-doses were taken, together with their results.

Majendie states, that he swallowed a tea-spoonful of the tincture of iodine, which is considered equal to one drachm, and contains according to his form=ula about five grains, without any other effect than a disagreeable taste, which was lost in a few hours.*

He also gives in the same place, the case of a child four years old, to whom was given by mistake, a tea-spoonful of the tincture prepared by Pelletier. Yet no bad effect resulted.

It is a little singular, that the subjects of the two previous cases, should have taken the same quantity

*See His Formulary, Art. Iodine.

as Orfila did, and yet not have experienced one of those urgent symptoms, that he complained of. Not even vomiting.

On the other hand; Dr. Gairdner informs us, that a fine boy aged ten years, did not live many hours after swallowing a tea-spoonful.* How can we account for this difference of action, if it be not owing to idiosyncrasy?

Dr. Gairdner also states, that a physician in London, rashly prescribed it to the extent of ten grains at a dose. The patient, (a young woman) was fortunately saved by vomiting.

We learn from Dr. Manson, of England, that a girl aged 17 years who was taking iodine for Scrofula, swallowed by mistake an ounce of the tincture, which according to his formula, contains nearly half a drachm of iodine. It was immediately rejected by vomiting, and no bad effect resulted.†

There is a case given in the American Medical

*Gairdner on Iodine. †Munson on Iodine.

Recorder, No. XLIV, of an attempt at suicide, by taking a drachm and a half of the solution of hydriodate of potash. The symptoms were, immediate distress, nausea, burning and acute pain at the epigastrium; in an hour vomiting supervened, followed by extreme agitation, continued moaning, paleness of the face, head-ache, and violent vertigo.

The treatment consisted merely in giving warm water to assist vomiting, enemata, gum-water for drink, and a few spoonfuls of an anti-spasmodic draught.

There is also a case mentioned in the North American, Med. and Surg. Journal, Vol. VI. A Lady at 26 years, of nervous habit, attempted suicide by swallowing two drachms and a half of the tincture of iodine. The immediate effects were, dryness and burning of the throat, lancinating pains of the stomach, nausea, efforts at vomiting; the face was flushed, eyes watery, pulse small and contracted; the pains of the epigastrium were exasperated by the slightest pressure; convulsive pains of the upper limbs.

The treatment adopted, was to excite vomiting by warm-water: after which, an anodyne draught was administered and an opiate plaster applied to the epigastrium, together with anodyne enemata. These remedies arrested all the symptoms, and the patient soon recovered.

We thus see that iodine acts as a powerful irritant on the gastric mucous surface. Yet like all other energetic medicines, it may by a gradual augmentation of the dose, be taken with impunity in large quantities.

Dr. Gendrin exhibited an ounce of the Solut: Potash: Hydriod: daily, for many days, to a Lady who was under his care, with signal advantage. (Vid. North American. Med. and Surg. Journ. V. VI.)

Dr. Edward Jenner Coxe relates a case in the same Journal, Vol III; in which a Lady took half a drachm of the hydriodate of potash daily, for twenty one days, without any unpleasant effect resulting.

Before closing this section, we cannot refrain from

noticing a case related by Dr Gairdner, as it strongly exemplifies that train of terrific phenomena, induced by the imprudent, and excessive use of iodine; to which state, Coindet has given the name of saturation or iodization, indicated by a host of symptoms truly deplorable, which he emphatically calls, the Iodic symptoms.

A young Lady in Paris, had had goitre for sometime. Her brother was studying medicine in that place, and soon determined upon trying the iodine in her case; to which she readily assented. The remedy soon removed the tumour; but still there remained a little hard lump in its place; and it was in attempting to dissipate it, that the remedy was pushed too far.

The formidable catalogue commenced with gnawing pains at the stomach, great anxiety and oppression; but here they did not halt; the remedy was urged on; and she became much emaciated; vomited

frequently; severe pain in the abdomen supervened; with the most distressing thirst. Dr. Gairdner was now sent for in consequence of an alarming diarrhoea, that came on in the night. He states, that he found her in a truly distressing condition. Her brother, and governess, were so terrified at the results of their conduct, that they could scarcely give him a coherent account of their proceedings, or of what had passed. She was then suffering the most excruciating pain at the stomach, with violent cramps and convulsive action of the muscles of the arms, back, and legs, without scarcely any intermission. The vomiting and purging were almost incessant. The stools were bloody, slimy, and very scanty; but at first, were copious and feculant. The matter vomited was of a dark-green colour, streaked with blood. The tongue was covered with a thick, dark crust. The countenance was pale and contracted, together with that peculiar expression, indicative

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of abdominal suffering. The pulse was small, hard, frequent, and could scarcely be numbered. In fine, he says the situation of the patient was such, as to place her life in imminent jeopardy. As she was unable to swallow, he directed four grains of opium to be thrown up the rectum; they were not long retained: he therefore ordered an anodyne embrocation to be applied to the epigastrium, and hot pediluvia. She was as soon as possible placed in a warm-bath; which so much allayed the gastric irritation, that she swallowed and retained, half a drachm of laudanum, with marked alleviation of her sufferings.

Dr. G then goes on to say, that for ten days she was in a very doubtful state, subject to severe attacks of diarrhœa, with violent pain in the bowels. Her emaciation during this time, was indeed incredible. He affirms, that he never witnessed any thing like such rapid extenuation. Her arms and body were almost fleshless: her breasts which

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had been large, were now perfectly flat: the calves of her legs had entirely disappeared; and her thighs were not much thicker than her wrists when in health. In fine, he says that the expression of her French nurse, "décharnée", was litterally applicable to her. Dr. Gairdner emphatically exclaims:— "She was indeed a miserable monument of the effects of iodine"!

This Lady never perfectly recovered. Her sufferings compelled her to take to the habitual use of opium; which she continued for several months; after which she had so far recoved, as to be almost able to leave off the opium.*

We have presented an abstract of the above case, from a desire to inform the reader of the horrible ravages that iodine is capable of committing, and thus to warn him against using it unwarily.

We are aware that many of the symptoms described in the preceding case, are not the same as those special

*Gairdner on Iodine.

ones, denominated by Coindet iodic; and which in=
=dicate its specific constitutional action.
We shall have occasion to speak more particularly of
them, in the subsequent section.

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Section 3d.

Therapeutic Application.

We have now arrived at that part of our subject, which merits the closest attention. The wide field that lies before us, is replete with matter the most useful, interesting, and important.

At the very threshold of our task, the first question which naturally presents itself, is, to what class or division of remedies, does iodine belong? Before attempting a reply, we must first inquire what are its

Medicinal Virtues or Effects. That the special action of iodine is to stimulate powerfully, or greatly to increase the activity of the absorbents; and, at the same time to exert an influence on the secernents, or those vessels which deposit or reproduce, and whose function is in direct opposition to that of the absorbents, can admit of no doubt. It is abundantly proved à posteriori in the cure of disease. It is in fact by virtue of this power, that it is enabled to cure

most, if not all the diseases to which it is applicable.

Another happy and peculiar effect of this remedy, is to correct that depraved condition of the whole system, denominated cachectic; or in other words, it is specifically an alterative. In these respects, it is analogous to mercury.

Iodine, like many other remedies, acts differently according to the quantity taken. In a medium dose, it is an alterative; in a large one, a stimulant; in a small one, a tonic. Let us now see what are the opinions of respectable authorities, concerning its remedial properties or effects.

1.st On the absorbent system. Coindet says: that "the experience of two years, upon more than two hundred patients, has proved to me that this remedy is one of the most energetic stimulants of the lymphatic system, with which we are acquainted."*

*See Coindet's memoirs on iodine; originally published in the Bibliothegue Universelle, but since translated by Dr. Johnson. We may here state, in order to prevent frequent repetitions, that it is to these memoirs we refer, whenever Coindet is cited. Moreover, that when Faindner or Manson are refered to, it is

Dr. Gairdner, speaking of medicines acting on the absorbents, says: "much obscurity, however, yet rests upon the subject, and a direct medical agent on the absorbent system, whose effects are speedy, indubitable, and powerful, is a great desideratum in the art of healing. Such an agent is iodine. Its effects on the absorbent system are incontrovertible." This language is certainly very pertinent.

Dr. Manson uses the following words: "the power of iodine over the absorbent system, has been noticed by Coindet, and others: it early attracted my attention, and since that time, I have had ample proof of its great power over the lymphatic system."

This we conceive to be sufficient testimony, to corroborate our statement, respecting the influence that iodine exerts over the absorbent, or lymphatic system.

2d. As a Stimulant and Tonic. Coindet uses the following terms: "Iodine is a stimulant; it gives tone to the stomach and excites appetite". The same author, after speaking of using it externally and internally,

in scrofula, says: "I, however, give the preference to the latter mode, since in small doses it proves eminently tonic." Professor Chapman thus expresses himself: "That it is a most active agent, productive of a high degree of vascular action and general excitement, is universally admitted.*" Dr. Chapman even ranks it with the tonics in his therapeutics.

Dr. Manson informs us, that the tonic effect of iodine was so remarkable in two sisters, who were taking it for goitre, that their mother, an observing woman, who was in a weakly state at the time, consulted him as to the propriety of taking it solely for its tonic effect on her own system. Dr. M. often speaks of its stimulating effects also, in many parts of his work.

The reader has seen, at page 17, that Orfila's pulse rose from 60, to 125, after taking six grains.

Iodine is also said to possess emmenagogue powers. It was first affirmed by Coindet, and the following are

*Chapman's Therapeutics. Vol II. Art. Iodine.

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his words: "If given in a certain dose, and continued for some time, it is one of the most active emmenagogues with which I am acquainted." This is certainly the language of enthusiasm: for no one, to my knowledge, that has since used it for that effect, has entirely confirmed his experience.

We are of opinion, that when it acts upon the uterus, it does so indirectly, like most other emmenagogues, i.e. by imparting tone and vigor to the whole system; but in some cases, influences the secretory action of the uterus.*

It were unjust not to notice the opinion, of so respectable an authority as Professor Brera. This distinguished Italian practitioner, published his experience of the remedy obtained in the clinical school of Padua, in 1822.†

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*We believe the general received opinion is, now, that the menstrual fluid is a secretion; the product of a genuine secretory function, performed by the uterus.

†Professor Brera's essay, was originally published in the Arch. Gen. de Med. But it is said‡ that he combined so many medicines with the iodine,

‡See Johnson's Journal. Vol. III. p. 766.

We shall merely give his views respecting its modus agendi. "Iodine," says he", is on many accounts, entitled to be classed among the heroic remedies, and to obtain a place by the side of mercury. Like mercury, it maintains a permanent action on the system for a considerable time after its administration has been suspended. Powerfully exciting the nervous system, it accelerates the action of the heart and arteries, and restores the functions of the sanguiferous and organic systems. It thus produces appetite, fattens the lean, and emaciates

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as to render the cures of nearly all the diseases in which he employed it, of doubtful import: in other words, it was impossible to say, whether the iodine, or the other remedies cured the disease: for this reason, we shall not speak of the complaints in which he exhibited it, nor adduce his experience as confirmatory of that of others. It would be deviating from our resolved scheme, i.e. not to mention a single disease, or case, except in which iodine was alone administered, or else where its presence was decisively shown, to be indispensable to the cure.

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the robust! Determining a particular action on the thyroid gland and uterus, it removes the enlargements of the former, promotes scanty, and lessens excessive, menstruation, and even diminishes the size of the mammæ.*" (Saggio, p. 83.).

Thus it appears, that iodine can produce different effects: but the great therapeutic prerogative which it possesses, and the one, too, that we mostly take advantage of, is its unlimited sway over the whole of the lymphatic, and glandular systems. Restoring or exalting the tone of the absorbents: arresting any morbid, or correcting any vitiating secretion: or, in a word, it is as I before said, an alterative, similar to mercury.

Iodine we are told, does not act in any way as an evacuant.

*This last effect has more than once been observed, and from merely remedial doses—namely, the absorption of healthy parts. Professor Hugeland, says he has seen three cases where the mammæ disappeared during its use for disease. (Vid. Amer. Med. Rec. Vol. VIII. p. 624.). It is also said, that men have been castrated from the same cause. Such events are apt to create an aversion to the remedy; but they are of rare occurence, and may proceed from its protracted, or injudicious use.

Coindet says: "it neither acts upon the bowels, nor kidneys, and produces no perspiration. Professor Brera, tells us the same thing, in the essay before alluded to.

We thus see, that it is rather difficult to classify, or give to iodine, any definite position in the materia medica. But, were I to answer the query proposed at the commencement of the section; I should say, 1st That it might be placed by the side of mercury, as an alterative*: and 2d Along with the mineral tonics.† I, however, prefer calling it with Dr. Manson, a tonic stimulant; as it implies its capability of producing more vascular excitement, than tonics properly so called.

It may be well to notice in this place, two anomalous effects of iodine, which resulted from its internal use.

"I have seen" says Dr. Gairdner" in one case, a most obstinate suppression of urine. Dr. G. merely mentions the fact, as he

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*As I know of no word, that is used to designate a medicine which acts upon the absorbent and glandular systems; I have therefore, from its analogy to mercury in this respect, called it an alterative.

†I am here supported by Professor Chapman, in classing it with the tonics.

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believes it to be a very singular occurence.

The second instance, is a case mentioned by Dr. Manson; where profuse ptyalism came on, during its exhibition for the cure of bronchocele.

We cannot forbear noticing two very curious, and inexplicable phenomena, frequently induced by the use of iodine. The one arises from its internal, and the other, from its external use.

Many patients after taking the iodine for a short time, complain of a peculiar itching sensation, over the whole surface of the body; some compare the feeling to that which would be produced by small insects creeping over the body, and which is called by physicians, formication.

The other effect, is one generally produced by its external application, in the form of an unguent or otherwise, and more particularly from the hydriodate of potash. It produces a total loss of sensation, in that part of the integuments on which it is rubbed, and sometimes extends its paralyzing influence, to those parts

which are supplied by the same nerves of sensation.

The above facts are mentioned by good authorities; but never have I seen any explanation of their modus Operandi, in causing these effects. These, like the final causes of many other phenomena, are veiled in mystery, and wrapt in the secret bosom of Nature. Were I vainly to attempt to reveal them, I should expose myself to ridicule, by being se=
=duced into the mazes of absurd hypothesis, and the follies of puerile speculation. Can human knowledge at present tell, why different medicines should possess as it were certain elective affinities for different parts of the system, and totally disregard others:? why one shall direct its force upon the absorbents, and another upon the exhalents:? why mercury shall seize upon the salivary glands, and prussic acid expend its malignant force upon nervous system, causing instantaneous death.? Doubtless not. But the period, however, may arrive, when these occult phenom=
=ena will be disclosed, and plainly understood.

We shall now end this paragraph by saying a few words

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on the influence of iodine over the nervous system, which will lead us to a special examination of the iodic symptoms.

That iodine, even in small doses, when continued, will sometimes excite violently the nervous system, cannot be denied; but when it does so, it undoubtedly forfeits its benign tendency, and loses its sanative powers. Indeed, so true is this, that when it manifests itself through the nervous system, it should be regarded as a signal, at once to withhold its further use; and if the physician does not obey it, he will "unchain a tempest" that all the resources of his art can scarce subdue.

Dr. Gairdner tells us, that it cannot be exhibited to certain persons so as to affect the constitution, without producing unpleasant nervous symptoms, such as "dimness of vision, indistinct hearing, fallacious touch, insomnia, breathlessness, palpitation, and all the countless forms of inward nervous derangement." But there is, however, one symptom in particular, upon which he lays great stress:—it is a degree of tremor, which comes on when the constitution

is under its full influence, and commences generally by a trembling of the hands, then the muscles of the arms, legs, and back, become affected. If the patient attempts to carry anything to his mouth, he moves it in a zig-zag manner, and gets it there with great difficulty at last. Dr. Gairdner speaks of the resemblance between this affection, and chorea.

The iodic symptoms described by Coindet, are as follows: "highly accelerated pulse, palpitation, frequent dry cough, insomnia, great loss of strength, and emaciation, swelling, or tremors of the lower extremities, diminution of the breasts, and a continued increase of appetite". For these symptoms, he prescribed milk, warm-bathing, and anti-spasmodics; together with the immediate suspension of the remedy.

Consoling, however, to mankind, and pleasing to the physician; is the fact, that this remedy may be freed of all its noxious powers, and rendered as harmless as any other active medicine, by a judicious and circumspect administration. In support of this assertion, we have the unanimous voice of all those who have used it extensively, and they

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are no inconsiderable number. Dr. Gairdner justly observes: that "like all other powerful remedies, when not controlled by a master, its energies become a source of mischief, and ruin."

Before proceeding to the practical application of iodine, we think it most proper, to give its different pharmaceutical preparations.

Pharmaceutical Preparations, and Rules for Its Administration. This remedy is presented to us in two forms for use: namely, the salts of iodine, and the iodine itself: of the former, one only is generally employed, i.e. the hydriodate of potash.* There are two methods by which it is administered: namely, internally, and externally by friction:

*The hydriodate of soda, will answer as well as that of potash; but the latter, is nearly altogether used. The iodates of these alkalies have been employed, but they were found to fail. Dr. Gairdner prescribed them; and he says, that they were "more inert and unmanageable", and more apt to disorder the system. As respects the iodides, none of them, except the iodide of mercury, has, to my knowledge, been employed; and this, we are told by Majendie, has lately been used in syphilis. (See, Majendie's Formulary, edit. 2.d)

for these purposes we have it differently prepared: there are the pills of iodine, and the tincture of iodine: the solution of the hydriodate of potash, and the iodurretted solution of it: for its external use, we have the iodine ointment; the iodine liniment; the iodine cataplasm; and the ointment of hydriodate of potash.

It is unnecessary to occupy time, in giving severally the formulæ of different authors for these preparations, as it is merely in their proportions that they differ; we shall, however, mention those adopted by Coindet, as he was the first to use the medicine in any shape whatever; after which, we shall give such formulæ as appear to us to be the best.

Coindet's prescriptions were as follows:

Tincture of Iodine.

℞ Iodine — — — grs XLVIIIj.

Sp: Vini: Rect: — ℥j

ft: tinct: ℞.

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Solution of Hydriodate of Potash.

℞ Hydriod: Potass: — grs XLviij
Aqua. Fontan: — ℥j
ft: Solut: Ad.

Iodureted Solution of Hydriodate of Potash.

℞ Hydriod: Potass: — grs XXXVj
Iodine. — — — — " X
Aqua. Fontan: — — — ℥j
ft: Solut: Ad.

Coindet added the iodine in this formula, to increase the activity of the solution in cases of unusual obstinacy; and with effect.

Ointment of Hydriodate of Potash.

℞ Hydriod: Potass: — ℥ss
Adeps. Suilla. — ℥iss
Cera. Alb: — — — ℥iiij
Liq: Potass: Caust: — — ℔ ij.
ft: ung: Ad.

Coindet had not the two last articles in his original formula, but has since added them.

We will now give our formula:

Tincture of Iodine.

℞ Iodine. — — ℥ss

Sp: Vini: Rect: — ℥j.

ft: tinct: ℞.

Solution of Hydriodate of Potash.

℞ Potass: Hydriod: — ʒij

Aqua. Fontan: — — ℥j.

ft: Solut: ℞.

To this, add eight grains of iodine, to form the iodureted solution.

Ointment of Hydriodate of Potash.

℞ Potass: Hydriod: — — ℥ss

Adep: Suill: — — — ℥j.

ft: ung: ℞.

Iodine Ointment.

℞ Iodine. — — — ℥j

Adep: Suill: — ℥j

ft: ung: Ad.

Or, an ointment of iodine may be made, by incorporating with the same quantity of lard, 1 or 2 drachms of the tincture of iodine.

Iodine Liniment.

℞ Linimen: Saponis: Comp: — ℥j

Tinct: Iodin: — — — ℥j

ft: linimen: Ad.

This liniment may be made more powerful, if required, by adding more of the tincture.

Iodine Cataplasm. This is made by adding the tincture of iodine, or the iodine itself, or the hydriodate of potash, to any of the common emollient poultices. This kind of poultice, is a valuable application for sores of every description, while we are at the same time, exhibiting the iodine internally.

Iodine Pills. These are made by forming the iodine into pills with any suitable substance, and each to contain half a grain:—one to be taken, twice or thrice a day. This, however, is the worst form of exhibiting the iodine, and can scarcely if ever be required. Professor Brera is the only one, to my knowledge, who has used them; he made it into pills, with "elder rob and liquorice powder." (Johnson's Journal. Vol. III. p. 762.).

As respects the tincture of iodine, and the solution, and the ointment of hydriodate of potash, the three preparations most commonly employed; are by different practitioners, made of different strengths; but the formulæ here presented, are about the average quantities, deduced from the careful examination of many authors.

As regards the tincture, it is unnecessary to add more iodine than the alcohol will dissolve, and this would certainly be the case, were we to use the quantity recommended by Coindet, i.e. 48 grains to the oz: for Dr. Bell informs us, that Mr. Durand, a highly intelligent apothecary of

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this City, could never dissolve more than 40 grains of iodine in an ounce of alcohol of the ordinary strength;* and I am told by Mr. Fisher, a most skillful and intelligent young pharmaceutist, of this City, that he could never get the same quantity of alcohol to take up more than 36 grains; hence we use in our formula, 30 grains to the ounce.

In making the tincture, all that is necessary, is to put the iodine and alcohol in a phial, and then to be well shaken: a pestle and mortar is not required.† This tincture should not be prepared long before it is used, as it is deteriorated by time, owing, as is said, to the iodine attracting the hydrogen of the alcohol, and forming hydriodic acid, while some of the iodine is precipitated — the rest going to form iodureted hydriodic acid. We may also make an etherial tincture of iodine, with sulphuric ether. (See, Majendie's Formulary. ed. 2d.)

The formula that we have given for iodine ointment, is the one adopted by Professor Brera; in fact we know of

† That is, if the alcohol is very concentrated. The tincture should be protected from light, as, it is said to injure

* Dr. Bell tells us this, in his paper on iodine, refered to at page 70

no other who has used such a preparation: it is not, however, so nice an ointment as that made with the hydriodate of potash, as it stains the skin of the colour peculiar to iodine: both of these preparations should be kept in well stoped vessels.

In using either of these ointments, we direct a small portion, say a drachm, to be rubbed on the swelling twice or thrice a day, and the friction to be continued untill the oint=ment disappears. Sometimes the tumour upon which it is rubbed becomes extremely tender and inflamed, particularly the skin covering it, which sometimes ulcerates. When this occurs, we should lay aside the ointment, and not resume it untill the inflammation is subdued.

We have before mentioned the paralyzing effect, inci=dent to the external application of iodine; it, however, is not alarming, and generally lasts only as long as the ointment is employed.

As to the iodine liniment, it is a most convenient and ef=ficient combination, as an embrocation. Dr. Manson, of

England, was the first, I believe, to use the iodine externally in that way, and it is his formula we have presented. The tincture of iodine may, however, be combined with any of the other liniments, thus forming a most potent discutient remedy, and can always be readily prepared.

Having thus mentioned all the different modes hitherto employed for administering iodine; we shall suggest two others, which from analogy with chlorine, and especially with mercury, appear to us might be practicable:—namely,—Inhalation, and Fumigation, with the iodic vapour The former of these methods, might prove useful in pulmonary affections: the latter, in diseases of the skin, particularly in inveterate syphilitic eruptions, where the iodine, or mercury, or both combined, are at the same time exhibited internally. We might even combine the iodic, with the mercurial vapour in such cases.

These we consider deserving of at least a trial, in obstinate cases of such complaints. Might not iodine as well

as mercury, be introduced into the system by these methods?

With regard to administering iodine, we should observe the same general rules with it, as with every other poisonously active medicine:—to commence with minute doses, and gradually increase it:—to watch its effects:—to attend to the age of the patient; and above all, in prescribing iodine, we should attend to the immediate condition of the system. Many a valuable remedy has had its reputation ruined from negligence on the part of the practitioner to that circumstance; and iodine, I have reason to think, has failed in many instances and was unjustly condemned, from this unscientific mode of prescribing. We would, therefore, strongly impress it on the mind of the physician, not to administer this remedy, whenever irritation, or phlogosis exists in the prima viæ; nor when the system is plethoric, or inflammatory. In the earlier stages of scrofula, particularly, (a disease in which iodine is invaluable,) the lymphatic glands are in an excited or inflamed condition, and here the iodine

may do harm; but should we on that account reprobate it? Surely not. Iodine is a stimulant, an irritant, a powerful excitant alike of the nervous, arterial, and lymphatic systems, and it is therefore our duty, always to bring the system to a proper state for its exhibition, by means sufficiently obvious, to the intelligent practitioner.

Of the tincture of iodine, and the solutions of hydriodate of potash, we should commence by giving six drops of either, to an adult, three times a day, about two hours after each meal, and to be cautiously augmented, say another drop, every other day, and the time of increase to be progressively lengthened, untill we reach to the amount of twenty drops thrice a day; it may, however, by continuance, be gradually increased, with safety, to twenty-five, to thirty, and even to forty drops thrice a day; at least we learn that practitioners have, occasionally, increased it to that amount.*

Our reason for advising it to be taken sometime after

*At page 22, we have mentioned cases where enormous doses were taken daily, for some time, with no bad effect.

eating is, that then, it would be less apt to induce nausea, an effect frequently complained of by patients under its use. Of the two, the hydriodate of potash is found by experience to be far less liable to disagree with the stomach and the system in general, than the pure iodine, and hence it is more generally employed; especially in private practice. We may give either of these preparations in a wine-glass-ful or more of sweetened-water, or of cinnamon or mint-water, or of pure-water, or what is more pleasant than all, in any of the aromatic syrups diluted.

Coindet administered it, chiefly, in cappillaire syrup and water. Dr. Manson gave it, generally, in simple water.

Some may think the dose we have recommended to begin with, is unnecessarily small: but we are convinced from what we have read, that too many practitioners are in the habit of commencing with injuriously large doses; hence we so often read of their having to suspend it, from its inducing nausea, head-ache, febrile excitement, &c,—in other words, they give a poisonous dose. The system here,

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as in every other instance, must become habituated to it, by repeated, yet gradually stronger impressions made upon it; and how easy to augment the dose if we find it insufficient, yet how can we recall the mischief when once done.

To the ingenious Coindet, is due the credit of having first used our remedy externally. He was induced to do so, from the clamours that were raised and promulgated against its internal use, and he treated numerous cases of goitre successfully by this means alone; in fact he thought this method would entirely supercede its internal use. It must, however, be apparent to any one, that in many diseases, its mere external application would not be sufficient; but even supposing it were, there is no necessity for such a restraint upon us, as it was owing to its empirical prescription or abuse, that this noble remedy became reprobated, and not from its employment in the hands regular practitioners. In proof of this assertion, we have the concurrent testimony of every

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Physician, that we know of, who prescribed it extensively. Dr. Manson used it in several hundred cases, without ever having cause for disapproving of it. Dr. Roots, of England, says he used it in more than 300 cases, with no injurious effects. Coindet, Drs. Gairdner, Baron, Decarro, and Professor Brera, employed it extensively, and never had occasion to regret its use. We could adduce the coinciding experience of many others, but it were superfluous; suffice it to say, that it is the unanimous declaration of all, — that iodine is as manageable and harmless, in proper hands, as any of the most active articles of the materia medica.

As to combining iodine with other medicines, as an auxiliary remedy, we know very little, as trials of the kind have been but few: yet from analogy we might infer, that in certain diseases, and more particularly in cases of inveteracy, it would stand pre-eminent as a co-operative agent. To use it as an auxiliar, is to doubt the efficiency of its unaided powers; and derogatory as this may appear, it on the contrary makes it more appreciable, as by it, we cure

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diseases that remedies unassisted would fail to do. Yet even supposing that iodine alone, could not cure a disease which other remedies alone were equally unable to do; but by combining the iodine with them they at once proved successful, why, I ask, should we not value that or those remedies as highly, as if any one of them had solely performed the cure? The intrinsic result is the same: the physician's object is attained: the noble cause which his profession ever has, and ever will labour for, is served; and what can it matter to him, whether it takes one, or more remedies to accomplish the design of his art, so that he does accomplish it.

The preceding remarks are more particularly made, from a suspicion that some are apt to expect too much from celebrated or (as they are sometimes called) specific remedies, and consequently persevere long in their sole use, at the expense of the patient's long suffering, merely from a desire to test its extolled powers, or to eulogize it by endeavouring to make it the sole agent in the cure.

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In conclusion: we would, therefore, recommend our remedy to be employed in some cases conjointly with others, and not to expect it alone to be successful in every instance:* we may further add, that during the employment of iodine, it is best to avoid costiveness by keeping the bowels in a regular condition; and ever to be on our guard against inducing that state denominated iodization or saturation, indicated by the iodic symptoms.

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*The reader will see as he proceeds, some instances related, wherein Iodine was happily combined with other remedies: still, in almost every case there were reasons for believing, that Iodine was a "Sine-quâ-non" to the cure.

Diseases to Which it is Applicable. Iodine, it appears, was first employed as a therapeutic agent by Coindet, a physician of Geneva, in the year 1819. This practitioner first made his discovery known by communicating it to the Helvetian Society, held at Geneva July 25th 1820.

The disease in which he first exhibited it, was bronchocele or goitre, as it was the only complaint in which burnt-sponge had been extensively employed, and which owed its specific effects in that disease, to the iodine which it was afterwards found to contain.

He was led to discover that iodine was the active principle in burnt-sponge, from his having found that Russell had used in bronchocele the Fucus Vesiculosus, under the name of Æthiops Vegetabilis; and knowing at the same time, that iodine existed in the different Fuci, and that sponge was also a marine vegetable, he at once though it probable, that iodine was the sanative principle in both these marine productions:—upon trying it, his conjecture was unequivocally confirmed. It produced

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the most astonishing effects in goitre, and has since con=
=tinued to be used in that disease with unrivalled success.
But this, like all other valuable remedies, was soon
employed in other diseases, and has since acquired as
extensive a therapeutic domain, as any other article of
the materia medica. As Professor Chapman justly
remarks, when speaking of medicines generally, that
"limited, indeed, would be its value, were its application
confined to the case only in which it was first discovered
to be serviceable." (Therapeutics. Vol. 1. p. 46. edit fifth.)
It cannot be expected that in the subsequent pages I am
to give the history of cases of those diseases in which iodine
has been used; to do so would convert our essay into an
octavo volume, a plan totally incompatible with the
design of an inaugural theme. We shall therefore be con=
=tent with merely mentioning those diseases in which
it has been found decisively beneficial, and will refer
to the authors, we shall adduce, for further details.
We shall commence by noticing the diseases of the

glandular system: and first of
Bronchocele, or Goitre. Such magic powers, has iodine displayed in this disease, that it has received, by almost universal consent, the title of specific. We do not conceive it necessary, to select any from among the numerous cases (except one,) which have been reported as illustrative of the successful employment of iodine in this disease. The case we are about to mention, is one related by Dr. Coster,* and was cured in a most singular and ingenious manner:—it was by combining the action of the Voltaic pile, with that of iodine. A young man, had a goitre equal in size to three pullets eggs, which had resisted the use of iodine, both internally and by friction. Being aware that iodine was attracted by the positive pole, Dr. C, thought it probable that by applying iodine to one side of the tumour, and the pole to the other, its absorbtion would be accelerated, and the result was highly confirmatory. He performed the operation twice a day, taking care to change sides at each time of its application:

*Chapman's Journal, Vol. VII. p. 424.

i.e. in the morning he would rub it on the right side of the tumour and apply the pole to the left, and conversely in the evening. He kept the tumour under its influence for ten or twelve minutes, and in the space of twenty days, it was entirely removed. Now in order to prove that the effect was not solely owing to the pile, he had previously subjected the tumour to a Galvanic current, and also to electric sparks, for many days in succession, without the least sensible effect. He used the pure iodine ointment, in the proportion of two grains to a scruple of lard. It was the only case, in which he ever adopted the above plan of treatment; but recommends physicians to give it a trial in all obstinate cases of this disease, and also of scrofula. It is undoubtedly worthy of a trial in all untractable cases of external tumours, and might even be tried in enlargements of internal parts.

When used in the ordinary way, in this disease, we direct, together with internal use in bad cases, frictions, twice or thrice a day on the tumour, with the ointment, either,

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of iodine, or hydriodate of potash; it should be rubbed, morning and night, with a portion about the size of a hazel-nut or more, until it (the unguent) is absorbed.

There is frequently a little, hard, knotty lump, that remains after the goitre is dissipated, which is often difficult, and sometimes impossible, to remove. Mr. Austin, of Farnham, is in the habit of using strongly camphorated mercurial ointment, for this purpose

The reader may obtain convincing proof, of the signal efficacy of iodine in bronchocele, by consulting Dr. Manson's work on iodine.

Scrofula. Coindet, from observing the good effects of iodine in bronchocele, was soon led, from analogy, to use it in scrofula, which was followed by the most encouraging results. It has since been prescribed, by numerous practitioners, in this disease, and in all its forms, with decided advantage

It is here, as in goitre, of great benefit to apply it externally, by rubbing the ointment, twice or thrice a day, into

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the enlarged lymphatic glands.

Dr. Manson, of England, employed iodine extensively, both in hospital and private practice, and in a variety of diseases, among which, were upwards of eighty cases of scrofula and scrofulous ophthalmia; which were treated by its internal and external use, and in the majority, with success. Dr. M, in conclusion, uses the following words: "I think my experience warrants me in pronouncing it to be by far the most powerful and energetic medicine that I have employed in the cure of these diseases."

In the ulcerated stage of this disease, together with its internal use, we may apply, with advantage, the iodine cataplasm or poultice to the ulcers, as recommended by Professor Gibson.*

Enlargements of the Mammary Glands. Most of the enlargements of these glands are of a scrofulous nature, and, from analogy, it is evident, that iodine might prove beneficial. Coindet informs us, that he used it with success

*Gibson's Surgery edit. 2d. Vol. 1.

in that "indolent enlargement of the glands of the breast con=
=sequent upon delivery."

Dr. Gairdner mentions a case of a married woman, who had had a swelling of her right breast for two years. It was, decidedly, of a strumous character, and had resisted all the usual remedies; but, was cured in six weeks, by placing a scruple of the Ung: Potass: Hydriod: in the axilla, of the affected side, every night on going to bed.*

M. Delix, of Morlaix, relates a case of enormous en=
=largement of the mamma, in a female æt. 30. When she sat down, they rested upon her thighs: and would meet behind her back! In four months and a half, they were

*This, is after Scattigna's method of using the mercurial ointment. He considers, a scruple of that ointment placed in the axilla at night, equal in effect, to a drachm, rubbed in the usual manner.

It may not be amiss to mention here, by way of a hint, that Dr. Gairdner used an ointment of squills, in a case of hydrothorax, in the same way, and with manifest diuretic effects, after it had failed to produce diuresis when taken internally. It would, certainly, be interesting, to try the exhibition of other remedies in the same way.

so far reduced, as to be only twice their natural size, by the use of the Ung: Potass: Hydriod: alone.*

Enlargements of the Liver and Spleen. In no other diseases, perhaps, has iodine displayed its deobstruent and resolvent powers more fully than in these. Dr. Milligan reports three inveterate cases, from the Royal Infirmary, that were completely cured in a month or two, by it, after mercury had been used in vain.†

Dr. Cartwright, of Natchez, has recently written an interesting and highly valuable essay, on the practical application of iodine, which is published in the American Medical Recorder, No. XLIV.

Dr. Cartwright employed it in various diseases, of which we shall speak as we proceed, and he claims originality with the exception of three of the diseases in which he used it: this, he may justly merit; but, (with one exception,) not priority; for, to my knowledge, others have preceded him.

Dr. C. tells us, that Dr. Thompson, of Louisiana, informed him, that he had used the iodine with complete success, in

*Vid. Amer: Med: Rec: Vol. X. p. 208. †Ibid. No. XLIII. 1828.

six cases of scirrhous enlargement of the spleen; and, that upon his authority, he prescribed it in the same complaint, from which, he obtained the most flattering success. Dr C. relates two cases, from among others, of enlarged spleen, that were of long standing, and yet yielded to iodine after all other remedies had failed; even mercury, pushed to salivation.

M. Eusebe de Salle informs us, that he treated with success, chronic enlargement of the liver, or, what is called "liver complaint", by iodine frictions and its internal use.*

Enlargements of the Testicles. We learn from the same source, and from the same authority, last refered to, that he employed it in the same way with success, in chronic enlarge=ment of the testicles.

Dr Brower, of Ohio, relates a very bad case of swelled and indurated testicle, cured by iodine, after mercury and many powerful local means had failed. He used it externally, as well as internally.†

Iodine has been used, with the same happy effects, in

*Majendie's Formulary. 2d edit. Art: Iodine.
†Vid. Western Journal of the Med: and Phy: Sciences. No. III.

chronic enlargements of the parotid and tonsil glands.

Marasmus, or Diseased Mesenteric Glands. As the mesenteric glands, in this disease, are found enlarged and indurated, occuring, generally, in those of a scrofulous diathesis and, nearly always, in children; we should at once infer, from analogy, that the exhibition of iodine would be followed by the happiest results: and such has experience verified.

Dr. Gairdner informs us, that he employed it in three cases of this disease; one of which, was perfectly cured, and the other two, were so much benefitted, that the patients became negligent about taking it, and Dr. G. thinks they would have been cured, had they persevered.

M. Calloway, an eminent English surgeon, obtained the very best results from the use of iodine in this disease.*

Dr. Roots, of England, however, says that he did not derive much advantage from iodine in this disease.† These, are the only physicians, that we know of, who have employed the iodine in this complaint. But, it certainly merits an extensive and unprejudiced trial, and we cannot forbear indulging

*Vid. Majendie's Formulary. ed. 2d p. 95.
†Vid. Appendix to Coindet's memoirs on Iodine.

the most sanguine hopes, that it will be found superior to all other remedies, in this fatal scourge of the innocent portion of our species.

We shall now finish with the diseases of the glandular system, by saying a few words concerning cancer.

Scirrhus and Cancer. Whether iodine has ever radically cured genuine carcinoma, either in its occult, or open stage, is, with us, exceedingly doubtful. We know of no instance, of true glandular cancer, having been completely and permanently cured by this remedy: yet, doubtless there have been cases, reported as genuine scirro-cancer, in which iodine was employed, with the most decisive utility.

M. Greafe Jr., of Berlin, mentions a case of cutaneus cancer (as he calls it,) extending over a part of the left breast, in a female Æt 50; where the Ung: Potass: Hydriod: was used with entire success. (Amer: Med: Rec: Vol XI.)

There is another case, noticed in the Journal of the Royal Institution, No. 27; in which, iodine allayed the pain and stopped the increase of a cancerous tumour of the breast.

But the curative powers of our remedy, in this disease, have been more marked, and unequivocally displayed, in that frightful and deplorable form of it, denominated Carcinoma Uteri.

It is reported by Messrs Hufeland and Osann, of Berlin, that great advantage was derived from it, in scirrhus and cancer of the uterus.* We learn from the same source, that Dr. Hennemann also reported a case, in which the cancer had arrived at the last stage: there was a communication between the vagina, and abdominal cavity; and even here, the iodine was employed with astonishing advantage.

This remedy, is certainly deserving of a most careful and extensive trial in this truly terrific disease: a disease that has hitherto challenged every agent of our art.

We shall now proceed to examine those diseases of the nervous system in which iodine has been successfully employed: and first of

Paralysis, or Palsy. Dr. Manson, of England, it

*Vid. Majendie's Formulary. p. 92.

appears, made a very free trial of iodine in this disease; and with great success. This practitioner employed it in all the different species of palsy, with equal advantage, and, to whose work on iodine, we would refer those who wish to be acquainted with the wonderful powers of our remedy in this, and other diseases.

Dr. Brower, of Ohio, relates, in the Western Journal of the Med. and Phy. Sciences. No. III, an interesting case of paraplegia cured by iodine, after many of the usual remedies had failed. He used, in conjunction with the internal exhibition of iodine, a liniment, composed of Tinct: of iodine, Tr: Canthar:, and Tr: Camph:, which was rubbed along the whole course of the spine.

Chorea Sancti Viti. From the success of iodine in palsy, Dr. Manson was induced to try it in chorea, and obtained results equally successful. This ingenious practitioner employed it in seventy-two cases of the disease, occuring in both sexes; out of which number, he gives the history of eleven cases cured by this remedy, and makes mention

of a case of five years standing, also cured by it.
Dr. Peltz, of this City, prescribed it in a case of this disease, with complete success. (Vid. Amer: Med: Rec: Vol. XIII.)
We are not aware of iodine having been employed in any others of the neuroses; and shall next examine those diseases of the generative system, in which it has been successfully prescribed. Under this head, we shall include the venereal disease, as common to both sexes, and those diseases peculiar to the female organization only: and first of

Gonorrhœa. M. Richond, of Strasbourg, appears to have been the first who employed iodine in the venereal disease. This physician's experience with the remedy, in some forms of this complaint, satisfactorily proves its signal utility. M. Richond published a memoir on the subject, in the Archiv: Gen: de Med: in March, 1824; in which he gives numerous cases of gonorrhœa and buboes successfully treated with iodine. He did not prescribe it, until the acute inflammatory symptoms were subdued.
M. Richond has since published further experience with

this remedy in gonorrhaa, in the Annales de la Medicine Physiologique, where are related twelve cases, of that disease, cured by iodine. (See. North American Med: and Surg: Jour: Vol. II. p. 411.)

Dr. Bell, of this City, has recently published an interesting practical paper on iodine, in which he mentions a few cases of gonorrhaa that confirm the happy results obtained by Richond. (Vid. N. A. Med: and Surg: Jour: Vol. VI. p. 301.)

Would not iodine prove useful in obstinate gleet, and particularly in that (as yet,) incurable form of it, denominated by Professor Physick, the "pin-head gleet."?

Syphilis. M. Richond, as we before remarked, used iodine, with success, in venereal bubo; and Dr. Bell also prescribed it, in many cases of bubo, with like success. Dr. Carturight, of whom we have before spoken, tells us, in his essay, that he employed it successfully in bubo. Iodine has not, to our knowledge, been prescribed, in the secondary or constitutional forms of this disease, excepting Dr. Bells remark: that "in ulcers of the mouth and throat, whether consecutive on syphilis, or proceeding from other

causes, I have derived the very best effects from the iodine."*

The flattering results obtained from our remedy in gon=orrhœa and bubo, are strong incentives for using it in all the forms of secondary syphilis; and we trust it will be found equal, if not superior to mercury, in this truly horrible disease. It is here, that probably the iodide of mercury, would prove a most potent agent. In the syphilitic eruptions, particularly, might not the iodic fumigation prove beneficial, as before suggested?

Amenorrhœa and Dysmenorrhœa. The ingenious Coindet was the first we believe who used iodine as an emmenagogue, and we have before stated his opinion as to its powers in this respect. This practitioner tells us, that he prescribed it with entire success in a case of chlorosis, and thinks, from analogy, that it would prove serviceable in the more common form of amenorrhœa. But, iodine, from all that we have heard, is not entitled to any extraordinary praise as an emmenagogue. Dr. Gairdner says that he cannot believe it possesses any

*See, Bell's paper on iodine.

power over the uterine system. Dr. Manson is of opinion, that it does not exert any specific action on the uterus, but that it merely participates in its general invigorating effects. Be this, however, as it may, the remedy has doubtless proved successful in the two diseases under consideration. Dr. Cartwright used it successfully in each of these complaints, and Dr. Thompson, mentioned by him, prescribed it with much success in restoring the healthy functions of the uterus. (Vid. Cartwright's Essay on Iodine.) Dr. Bell, of this City, employed it in several cases of amenorrhoea, and, in some of them, with complete success. (Vid. Essay.) Dr. Denman recommends an infusion of burnt-sponge with bark for dysmenorrhoea, in cases where the "deciduous membrane" exists. (Denman's Midwifery. Chap. V. Sect. IV.) From the above facts it appears, that iodine does in some instances reproduce the suppressed catamenial discharge; and, that it is also capable of preventing painful menstruation, by changing that derangement of secretory function upon which dysmenorrhoea is believed, mainly, to depend.

Iodine is certainly worthy of a trial in all obstinate cases of these complaints.

Leucorrhœa, or Fluor Albus. In this disease our remedy has not failed to do good. The few trials made with it, are highly encouraging. Dr. H. A. Goeden cured two cases of this disease of six years standing, with iodine.* Dr. Bell says that he used it in several cases of leucorrhœa, "with speedy and permanently beneficial effects."† Dr. Gimelle, of Paris, also employed iodine with great effect in the cure of leucorrhœa of long duration.‡ We may also, here, state, that we employed it ourselves in a case of chronic leucorrhœa, with marked success. These instances are sufficient to confirm its eminent utility in this disease.

Dropsy of the Ovarium. Dr. Baron, in his valuable work on "Tuberculous Diseases," gives a case of this disease in which iodine proved wonderfully beneficial. Dr. Gairdner says that he saw it exhibited in a similar case, and where the tumour had been twice tapped,

*Vid. N. A. Med: and Surg: Journal. Vol. II. p. 412.
† Bell's Essay on Iodine. ‡ Chapman's Journal, Vol. VII. p. 199.

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in which it produced a complete cure.

These are the only cases, we know of, in which the iodine has been employed; but they are sufficient to prove its powers in the disease, and to awaken the attention of the enthusiastic practitioner.

We have elsewhere spoken, (page 67) of the efficacy of Iodine in carcinoma of the uterus.

Having now concluded our remarks upon the diseases of the generative system, we shall proceed to notice those of the Dermoid Tissue in which Iodine proved success=ful.

Iodine unquestionably exerts a considerable influence over the cutaneous tissue, as is proved by the removal of disease located in it. Dr. Gimelle,* of Paris, and Dr. Kolley,† of England, have employed it with entire success in diseases which they term dartres. Dr. Goeden observed while using our remedy in several cases of scrofula, that it also cured the Tinea Capitis with which the patients were at the same time affected.‡ Dr. Manson mentions

*Majendie's Formulary. ed. 2d. p. 96. †Appendix to Coindet's Memoirs on Iodi
‡Vid. N. A. Med: and Surg: Journal. Vol II.

a patient who had Leprosy together with bronchocele, and while under the use of Iodine for the latter disease, was at the same time cured of the former.

Dr. Biets speaks in high terms of the Iodides of Sulphur in cutaneous affections: he has witnessed their good effects in Psoriasis, Tinea Favosa, and Acne Rosacea. Dr. Biets used them as an external application, mixed with any fatty substance in the proportion of a 16th, a 20th, or a 25th part. (See. N. A. Med: and Surg: Jour: Vol. V. p. 452.)

From viewing the preceding statements, we cannot entertain the least doubt that Iodine will prove a most efficient remedy in the untractable chronic diseases of the skin; and here it is we possess the great advantage of using it externally as well as internally. Might not the Iodic Fumigation be employed in these diseases with the very best effects?

We shall now proceed to notice some particular diseases in which Iodine has been prescribed with acknowledged utility, and frequently with entire

success:—and first of

Phthisis Pulmonalis. Dr. Baron relates, in his work already spoken of, a case in which there was the most conclusive evidence of the existence of tubercles in the lungs. After having used the ordinary remedies in vain, he resolved upon trying Iodine, and the result was highly flattering: it gradually ameliorated all the symptoms, and finally restored the patient to health. Dr. B. exhibited it in some desperate cases of this disease, but without relief; owing to their being too far advanced to be remediable, and he, therefore, thinks that Iodine is applicable to cases only of incipient phthisis, where extensive disorganization has not supervened. Dr. Gairdner's experience with Iodine in this disease, coincides with that of Dr. Baron's. He prescribed it in a case where he had ample proof of the presence of tubercles, and with marked success. Dr. G. also em=ployed it in some advanced cases, without benefit, and sometimes, even with aggravation of the symptoms.

Mr. Austin and Dr. Roots, of England, employed Iodine in tubercular phthisis, but without any apparent advantage; indeed, the latter practitioner says it induced hæmoptysis in two instances, from the increase of vascular action, and that he was obliged at once to withhold its use.*
We will, here, transcribe a prescription used by M. de Fermon in a case of phthisis, with great service; not to illustrate the powers of Iodine, so much as to show how happily it may be combined with other remedies, and more particularly as it is for a disease the most melancholy.

℞ "Lettuce Water, - - - - - 4 oz.
Solution of Hydriodate of Potas: 15 drops,
Medicinal Prussic Acid, 10 to 15 drops,
Syrup of Marshmallows, - - - 1 oz."

A tea-spoonful of this was taken every hour.†
From weighing the foregoing facts, we must conclude, that Iodine, in some instances, is capable of curing incipient tubercular phthisis, if administered with circumspection; but, that it is totally impotent in the advanced

*Vid. Appendix to Coindet's memoirs. †Majendie's Formulary. p. 94.

*

stages, when structural lesion is extensive.
Nevertheless, I conceive it deserving of a more diffuse, yet extremely cautious, trial, in the latter as well as in the earlier periods of the disease.
Might not the Iodic Vapour diluted be used as an inhalation, with advantage, in this complaint, especially when the remedy is at the same time taken for its constitutional effects?
Should repeated trials, however, confirm our conclusion, we may exult in triumphing over one of the opprobria of our art, the hitherto desolating scourge of our race.
Ophthalmia. Iodine has displayed the most remarkable effects in this disease, but more especially in that variety of it, denominated scrofulous ophthalmia.
We have before stated* Dr. Manson's success with Iodine in numerous cases of the complaint, and which, in our opinion, are alone sufficient to inspire unshaken confidence in its power to remove it. For cases, however, confirmatory of its great efficacy in ophthalmia generally, see Cartwright's

*Page 61.

Essay on Iodine in a Journal previously designated.
Dr. Cartwright also gives a case of Iritis successfully treated with Iodine. Dr. Manson and Dr. Cartwright both found the Iodine to remove Opacities of the Cornea that existed in many of the cases together with the ophthalmia. Dr. Cartwright, generally, applied the Ung: Potass: Hydriod: twice, or thrice a day to the eye-lids and neighbouring parts, and found it necessary to exhibit the remedy internally in very bad cases only. Care should be taken that the ointment does not enter the eye, as it produces violent irritation.
Nearly all the cases of ophthalmia related by these two physicians, were of very long standing. We could adduce the confirming experience of other practitioners; but it were superfluous.
We had almost forgot to remark, that the iodic ointment restored the sense of Sight to three blind horses; the ocular disease, however, is not mentioned, but we suppose it was cataract; if so, how worthy of a trial on the human

subject. (Vid. Cartwright's Essay.)

Arthritis, or Gout. Singular as it may appear, Iodine has recently been employed in this disease, by Dr. Gendrin, of Paris, with astonishing success. He prescribed it both in the height of the paroxysm and during the inter=mission with equal advantage. It was found particularly serviceable in removing the chronic enlargements of the joints and the articular concretions, while at the same time, it entirely prevented the return of future paroxysms, and thus accomplished radical cures.

Dr. Gendrin used Iodic frictions on the affected joints together with its internal exhibition. For a statement of his cases and a detail of the above mentioned facts, see. Amer: Med: Recor: No. XLIV. 1828.

Dr. Choate, of Salem, relates a severe case of gout, which was perfectly cured by the internal and external use of Iodine. (See. Boston Med: and Surg: Jour: No. 33. 1828.)

Dr. Choate prescribed it on the authority of Dr. Gendrin; and whose experience it undeniably confirms. Should

further experiments be followed by similar results, we may at once conclude, that this disease is no longer an opprobrium of our art.

What may we anticipate from our remedy in Rheumatism; especially in its obstinate chronic forms.?

Fungus Articuli, or White Swelling. Iodine has been successfully employed by several practitioners, in this painful and, generally, untractable disease. As it most frequently occurs in those of a strumous diathesis, the remedy would appear to be peculiarly well adapted to the affection; and such has experience proved. Dr. Manson relates many cases wherein Iodine was entirely successful. He generally used the Iodine Liniment as an embrocation to the diseased joints as well as the internal exhibition of the remedy. Dr. Manson mentions a case of "Dropsy of the Knee-Joint" that was cured by Iodine and the application of a blister-plaster.

Dr. Gairdner gives a bad case of white swelling, that was communicated to him by Professor Maunoir, of Geneva,

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which Iodine succeeded in curing after many active remedies had failed. Majendie states, in his "Formulary", that M. Linck reported two cases of this disease which were cured by Iodine. We shall now say a few words upon a disease in many respects closely allied to the preceding one: namely,

Coxalgia, or Hip-Joint Disease. Dr. Manson, in his work so frequently appealed to by us, presents four cases of this disease; two of which were cured, and the rest much relieved by the use of Iodine. Dr. Bell, in a paper on Iodine, previously refered to, mentions a case of disease of the hip-joint that was successfully treated by this remedy after other means had failed. We should in this affec=tion, also, use our remedy externally.

This disease generally bears the scrofulous taint, and from these few trials the Iodine doubtless promises much.

We shall now proceed to notice a few diseases in which, so far as we are acquainted, Iodine has been successfully employed by Dr. Manson exclusively; and of course the credit of priority

is due to that Gentleman. They were as follows:

Deafness; Dysphagia; Fistula Lachrymalis; And Distortions of the Spine.

1. Deafness. Dr. Manson gives several cases of deafness which were cured by Iodine; and we can easily understand its modus operandi, when we are informed that the disease in these instances, chiefly, depended upon a chronic inflammation and thickened condition of the lining membrane of the Eustachian tube, thereby excluding the air from the cavity of the tympanum. So sanguine is Dr. M., that he says he hopes the remedy will supercede the necessity of puncturing the membrana tympanum, in such cases.

2. Dysphagia. The difficulty of swallowing arose from a contracted, thickened and, in some instances, an ulcerated state of the œsophagus, and of course, its modus operandi is no less apparent. The Doctor relates several interesting cases of the disease, which were perfectly cured by Iodine. He thinks, that some benefit may also arise from

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the remedy's coming in contact with the asophagus in the act of swallowing it; and which I think is not improbable, especially if ulceration exists.

3. Fistula Lachrymalis. Dr. Manson speaks in the most ardent terms of the efficacy of Iodine in this disease. He gives the history of many cases that were cured by it, and says that every day's experience confirms the pre-eminent powers of the remedy in the complaint.

4. Distortions of the Spine. The same practitioner, as strenuously recommends Iodine in spinal distortions. His success with it in so truly a melancholy affliction, is a sufficient reason for his warmest eulogy. Dr. M. relates several cases of this disease, and in some of them, even the curvature was in a great measure removed; and, where it was not; almost invariably the local morbid action was arrested; the strumous diathesis corrected; (upon which he supposes the disease generally depends,) and thus the fatal career of the affection was intercepted. Dr. Manson kept the patients at rest in a recumbent posture as much as posible during the treatment; and together with

the internal use of Iodine, he had the affected part of the spine rubbed, daily, with either the Iodic ointment, or liniment, and preserved an open state of the bowels. With such treatment, they were generally cured in a few months by a consolidation or anchylosis of the deranged vertebræ taking place.

The foregoing facts are deserving of the highest attention, and are sufficient, at least, to prompt us to an imitation of the practice.

Dr. Manson states that the Sense of Smell was restored to a patient while under the use of Iodine, which had been lost for nearly three years. It was owing to a thickened condition of the Schneiderian membrane, thereby compressing the extremities of the olfactory filaments, and hence the modus operandi of the remedy is intelligible.

We shall now close our catalogue of diseases by presenting a few miscellaneous cases wherein our remedy was successfully applied: and first of

Varicose Veins. Strange as it may seem, Iodine has cured morbid dilatation of the veins. Dr. Gairdner

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mentions a case where this disease existed in the veins of all the extremities of a woman who was using the remedy for goitre: the Iodine, however, did not seem to act upon the tumour; and the Doctor thought that the abstraction of a little blood might produce the desired effect: it did so: but a result which he did not anticipate, was (to use his own language,) "a total and sudden disappearance of the varix which had commenced during pregnancy twelve years before."

This case we consider highly interesting, and more particularly as it furnishes us with a valuable practical fact, namely, that the action of Iodine may be exalted by the detraction of blood, especially in plethoric habits. This, however, is a mere illustration of the well known fact, that the absorbent and arterial systems are in an inverse ratio with respect to their activity.

But, that form of this disease in which Iodine has lately, and in our country, been most successfully employed, is Circocele. Dr. Cartwright informs us, in his essay on Iodine,

that he cured a case of this disease by the internal and external use of Iodine. He, also, states, that Dr. M'Phieters cured two cases of circocele, and Dr. Thompson one, with this remedy. We must here support the scrotum, and use the Iodine externally as well as internally.
Results like these, are surely sufficient to induce us to give the remedy an impartial trial in every case of this troublesome and intractable complaint.

Diarrhœa. Dr. Cartwright informs us, in his essay, that Iodine has been employed, with success, in an obstinate diarrhœa peculiar to the "Southern States."
"This disease" says he, "although somewhat similar to the diarrhœa serosa of Dr. Good, and the diarrhœa aquosa of Hoffman, is nevertheless essentially different from the disease described by these authors, and agrees with it only in one prominent symptom — frequent and copious evacuations from the bowels, of a watery or serous fluid." Be this as it may, the diarrhœa under consideration, was of a most fatal character, and baffled

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the powers of every remedy that had been prescribed. "Dr. Thompson, of Louisiana," says Dr. C, "at length resorted to Iodine. It cured the disease speedily and effectually." No other remedy was used, except half a drachm of calomel, occasionally, at bed-time. Dr. Cartwright mentions a very severe case of it, wherein he prescribed the Iodine, on the authority of Dr. Thompson, and with complete success. Dr. Cartwright suspects this diarrhœa, chiefly, depends upon a diseased condition of the mesenteric glands.

What would be the effects of our remedy in ordinary chronic diarrhœa.?

Chronic Ulcerations of the Tongue and Pharynx.

Majendie prescribed Iodine in some inveterate cases of these affections, that were even considered as incurable, with success. For details, see. Amer: Med: Recor: No. XLIII. 1828.

Diseased Heart. Dr. Wright, of Ohio, has detailed a very interesting case of cardiac affection, under the title of Cardialgia; and although other remedies were used

conjointly with Iodine in the treatment; yet, from certain facts and events which he mentions, the pre-eminent agency of our remedy was so marked and unequivocal, that it were impossible, for a moment, to doubt the indispensable necessity of Iodine for consummating the cure.*

Cephalagia. Dr. Gibney informs us, that after using many remedies, with but trifling utility, in a case of this disease, he prescribed the following combination of Iodine, with entire success: ℞.— Tincture of Iodine — ʒj ss, Infus: Colomb:— ℥vij, Tinct: Senna — ℥v ss. Ft. Signe, Take an ounce 3 times a day. In four days the cure was perfected.†

We present the above case, to show that Iodine may, occasionally, be harmoniously as well as advantageously combined with other remedies.

Physconia Hydatidosa. Dr. Baron relates a case of disease, to which he has affixed the above appellation, that was successfully treated by Iodine. "The abdomen" says he "was as large as that of a woman's in the last stage of pregnancy."

*Amer: Med: Recor: No XLIV. 1828. †Ibid. Vol. XIII. p. 239.

He also states, that one or more cysts had, occasionally, burst, and emptied their contents into the intestinal canal, followed by a discharge of such fluid as hydatids contain. Mercury and the Liquor Potassæ had been unavailingly employed for a considerable time; but under the use of Iodine, with laxatives and, occasional, leeching; a rapid recovery took place.*

Tuberculated Secretions of the Peritoneum. Dr. Baron, in the work just refered to, mentions a case of this disease wherein Iodine was used successfully. He employed the Ung: Potass: Hydriod: in the form of frictions over the abdomen together with the internal exhibition of the remedy.

Polysarchia, or Excessive Corpulence. Dr. Graefe, of Berlin, prescribed our remedy, with success, in a case of this disease, (if I may so call it.) After using active depletory means, with only partial relief, he resorted to Iodine as an "emaciating agent," and with full effect.† The result of the above case is, in our opinion, a most

*See. Illustrations of the Enquiry on Tuberculous Diseases, by Dr. Baron.

†. N. A. Med: and Surg: Jour: Vol. V. p. 453.

satisfactory demonstration of what we have before advanced respecting the energy that Iodine imparts to the absorbents.

Since writing the preceding pages of this essay, I have received some recent information of an interesting and practical nature relevant to our topic, and shall therefore take the liberty of announcing it.

Mr. Buchanan, of England, has lately published an "Essay on a new mode of treatment for Diseased Joints, and the Non-Union of Fracture;" in which, however, several other diseases are mentioned wherein he employed the Iodine successfully; and of which we shall presently speak.

In the above essay, Mr. Buchanan relates many cases of scrofulous inflammation of the different joints, but particularly that of the knee and hip, which he cured by the external use of Iodine: but there is no novelty in the practice; no new mode of treatment here; as may be seen by refering to what we have said under the head of White Swelling. All that is original, is, the manner in which Mr. B. uses, or applies the remedy in such cases, and which

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consists in applying the Tincture of Iodine to the affect=
=ed joint by means of a "Camel hair pencil, or brush."
He moistens the whole of the inflamed part with the
tincture, in this way, once or twice a day, or every other
day, as the case may demand; and does not exhibited
the remedy internally at all. With this treatment
he was very successful. He also used it, in the same way,
in a few cases of simple phlegmonous inflammation,
where pus had even formed, as fluctuation was percept=
=able, and generally with an abatement of the pain;
a removal of the inflammation; and finally the matter
was absorbed.
Mr. Buchanan used the tincture, in the same manner,
for discussing Buboes, mostly venereal ones, and with
marked success. In one or two instances, mercury, exter=
=nally employed, had failed. He, also, derived the very
best effects from the tincture in the cure of Nodes.
Mr. B. informs us, that he found the tincture of Iodine
no less efficacious in arresting the progress of Gangrene

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and in curing Fistulas. In the former disease he applied the tincture over the gangrenous part, and, also, over a portion of the sound skin; and when the slough was detached, the application of the tincture to the ulcerated surface was of much service.

Of its powers in healing sinuses he speaks in the highest terms. Mr B. states, that he cured two cases of fistula; one existed in the perineum — the other in the anus.

In Inflammation of the Mammæ, this practitioner used the tincture with like success. But, what is rather novel in the practice, is the fact, that he applied it to the breasts, and, indeed, in many cases to the joints, while in the most acute stage of inflammation, and always with prompt relief. In order to show the state of the parts, and the effects of the remedy, we shall quote his own language. After speaking of the absurdity of rubbing Iodic ointments, or liniments upon parts so highly inflamed, he says: — "Whereas, the tincture may be applied to the parts in the most acute stage of inflammation, when even the mere touching of

the parts, or weight of the bed-clothes create of themselves intolerable pain; the external application will at this period, afford the most decided relief in assuaging pain however excruciating." (Vid. Essay, p. 88.)

Indeed, so marked are its effects in this latter respect, that of alleviating pain, that, Mr. Buchanan makes the following commentary:—"There is" says he, "a remarkable phenomenon attendant on the external application of the Tincture, viz. an anodyne, as well as stimulating effect, so that the patient generally feels a cessation of pain im= =mediately after the Tincture has been applied." (Essay, p. 89.)

In all the above diseases, Mr. B. merely applied the tincture of Iodine to the parts with a "Camel hair pencil, or brush," and as frequent, as we before mentioned. He says that as a general rule, the parts should be leeched, and the bowels opened, prior to the application of the Tincture.*

We cannot, however, but believe, that the Tincture acts, in some degree, in relieving acute phlogosis, as an evaporating lotion does. Would not this mode of using it be highly

*The Tincture employed by Mr. B., was made in the proportion of a drachm

serviceable in Acute Gout?

With respect to treating Non-Union of Fracture with Iodine, and successfully too, is, so far as I know of, entirely original with Mr Buchanan. He uses the Tincture precisely in the same manner in this complaint, as in those just spoken of — by applying it all over the parts covering the false-joint. Mr B. mentions but two cases, only, of the affection: one had succeeded a fracture of the neck of the thigh-bone — the other, that of the tibia and fibula. In both of these cases the remedy proved successful, after other means had been resorted to ineffectually.

Mr B. conceives the cure of all these diseases to be owing to the stimulating properties of Iodine. (Vid Essay).

Should repeated trials with this remedy in the non-union of fracture, confirm the statements of Mr Buchanan, it may be hailed as one of the triumphs of our art, and reflects the highest credit on its discoverer.*

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*We may here state, that Mr Buchanan exhibited Iodine in diseases of the ear, particularly in scrofulous inflammation of that organ attended with purulent discharge from the meatus, with the very best effects. See, His Illustrations of Acoustic Surgery

We are informed that Dr. Guerard employed the Hydriodate of Potash successfully in two cases of "Metritis," or inflammation of the uterus. (Vid. Amer: Med: Recor: No. XLV. 1829.).
These cases were consecutive on parturition: but, are they not sufficient to prove the applicability of the remedy to the inflammation of other internal organs, or parts, and to warrant us in giving it a trial in these cases? What might be its effects in Puerperal Fever?
We, also, learn, from the same number of the above Journal, that Iodine has been serviceably employed in Dyspepsia. It was given in the form of tincture, of which, "small doses" were administered "twice a-day, in some aromatic water." "The effects derived from this medicine" (in this disease) "are permanent." No other remedies were used, in the cure, except small doses of blue-pill, and aperients, occasionally, at bed-time.
Having thus faithfully noticed every disease, so far as we are acquainted, in which Iodine has been beneficially, and very frequently successfully, employed, we shall next

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mention a few diseases, in which, from analogy, Iodine, we think might prove useful.

1.st That scirrhous affection of the Prostate Gland, occuring almost always in old people, known by the name of "Enlarged Prostate", "Prostate Gland Disease", &c.

2.d That disease of the Thymus Gland incident to very young children.* 3.d Fungus of the Antrum Maxillare. 4.th The Cauliflower Excrescence: And, in many other diseases, as, Ozæna, Polypi of different parts, Indolent Piles, Staphyloma, Cataract, Lithiasis, or Gravel, Elephantiasis, Fungus of the Testicle, Phymosis and Paraphymosis, The Atonic Hæmorhages, Osteo-Sarcoma, Spina Ventosa, &c, &c; and many others that would readily strike the intelligent practitioner, but which our time will not allow us to investigate.

For suffering humanity, however, we cannot refrain from recommending an extension of its application to the

*This affection of the thymus gland I believe has not received much attention. Dr. Underwood alludes to it when treating of inward fits; but, for some interesting cases of it, lately communicated, See, Amer: Med: Recor: Vol. XII. p. 171.

whole of the orders, or varieties of those diseases in which it has already been successfully employed; such as, The Chronic Cutaneus Diseases, Dropsy of every description, Obstinate Ulcers of every kind, Scirrhus and Cancer of any part, Chronic Inflammation of the Mucous Tissue in any part, Inflammation of internal Organs, Tubercles and Hydatids in any part, Ophthalmia of every variety, Tumours, or Morbid Growths of every description, &c, &c.

We shall now terminate our subject by saying a few words concerning its

Modus Operandi. We have never seen an attempt, by any Writer on the subject, to explain the modus operandi of Iodine in the cure of disease. Whether, this proceeds from any intrinsic difficulty, or a dislike to theorize, we shall humbly endeavour to determine.

That the modus operandi of Iodine, like that of almost every other medicine, is enveloped in some obscurity, cannot be denied. Yet, if we are fully satisfied as to its medicinal properties or effects, it appears to us, the mystery may be

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in a great measure disclosed, and its modus operandi ren=
=dered rather intelligible than otherwise.
We have before said that Iodine powerfully exalts the vigour of the absorbents, and simultaneously corrects the vitiated excretions of the secernents, by altering their depraved, or debilitated condition. We, also, said that it restores the lost tone of the absorbents. It, likewise, imparts tone to the relaxed, or debilitated secernents, or exhalents, as the case may be. We, moreover, endeavoured to show that it is a tonic-stimulant; invigorating the system generally. Now, if we admit these to be the attributes of the remedy, it appears according to our views, to account for its modus agendi in the removal of all diseases to which it is applicable, either, in a <u>direct</u>, or <u>indirect</u> manner.
<u>Directly</u>, it cures all tumefaction, morbid growths, thick=
=ened parts, tubercles, Dropsies, cutaneus affections, scirrhosities, obesity, ulcerations, leucorrhœa, gonorrhœa, diarrhœa, &c.; by influencing immediately the absorbents

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and secernents, or exhalents. We conceive, its powers in restoring the healthy functions of the uterus to be owing to this mode of acting, looking upon the uterus to be of a glandular nature. It, also, cures inflammation, directly, as, ophthalmia, gout, iritis, &c. by acting upon the debilitated capillaries; and here its stimulating and tonic powers are called into action.

Indirectly, it cures deafness, fistula lachrymalis, &c.; and, also, palsy and chorea — by removing their maintaining causes, such as, tumours pressing on the brain, or spinal marrow; a thickened state of their meninges, or of the neurilima of nerves; slight effusions, &c.

Its modus operandi in curing varicose veins is rather more obscure. Yet, let us for that reason endeavour to account for it. May it not act in circocele by absorbing the testicle, or, in other words, by causing a waste in its nutrition, and the gland thereby requiring an extraordinary supply of blood, the arteries of the part are called upon to furnish it, and the veins, of course, are defrauded of their full quantity

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of blood, while in the meantime they (the veins) contract, or shrink to their natural size.? Again — may not, even, the absorbents supplying the veins take up a portion of their, almost, coagulated contents, and thus aid in emptying them.?

If Iodine will cure varices of the extremities, of which we have not satisfactory proof, as I know of but one case*; and in that there was much ambiguity, it must act on the same principle as in circocele; comparing, for the sake of reasoning, the whole body in the former case, to that of the gland in the latter.

There is one phenomenon connected with the operation of Iodine, which is rather curious: namely, — that when it is used for the cure of tumours, or morbid growths, it acts on the diseased structure, alone, totally disregarding the healthy parts, as though the absorbents preferred feeding on the morbid mass, and were anxious to devour it first.

This may be accounted for we think in the following way: — In a tumour, as, for example, a goitre, we

*Vid. page 85.

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conceive, that the absorbents and secements of such tumour, are in an excitable, though debilitated condition; they are irritable, though exhausted, from over-excitement and much exertion; consequently, they will be the first to perceive and announce the Iodic impression, as is demonstrated by the rapid disappearance of the tumour.

We have thus presented our humble views of the modus operandi of Iodine in the cure of disease: yet we do not positively assert that they are correct; but advance them more as suggestions than facts, and, if theories more plausible should appear, our mind is ever open to conviction, and ready to obey the unerring mandates of truth.

"Si quid novisti rectius istis,
Candidus imperti; si non, his utere mecum." — Hor.

We trust that the present essay is sufficient to convince the Reader, that Iodine is a most invaluable addition to the Materia Medica, and should ever be regarded as a valuable gift presented to humanity, by an all-wise and beneficent Providence. It is a remedy of comparatively

recent date, and is, now, rapidly gaining ground in the field of practice. It is a remedy, too, whose reputation does not depend upon the sanction of distinguished names, or upon authorities however pre-eminent. Nor is it subject to the changes of caprice:—in one year extolled:—in another repudiated: on the contrary, from its own intrinsic worth, it will ever stand unshaken amidst the revolutions of medical fashion, and prove a powerful weapon in the hands of the skilful and judicious practitioner.

Note. Since completing the above essay, I have been informed by an experienced practitioner, of this City, that he prescribed the Iodine with success in a case of Atonic Menorrhagia, after other remedies had been used with only partial relief. The same gentleman, also, exhibited it in an inveterate case of "scrofulous discharge from the Ear", that no remedy had ever relieved: the Iodine, together with a seton in the back of the neck and syringing the meatus, effected a complete and, as yet, permanent cure. This practitioner, also, informs me, that he used Iodine in a case of Psoriasis Inveterata with very great advantage. We have taken the liberty of communicating these facts on account of their interesting and practical character.